

Title (en)
FLUORESCENCE IMAGING OF GEMSTONE ON TRANSPARENT STAGE

Title (de)
FLUORESCENZBILDGEBUNG EINES EDELSTEINS AUF EINEM TRANSPARENTEN OBJEKTTSCH

Title (fr)
IMAGERIE PAR FLUORESCENCE DE PIERRE PRÉCIEUSE SUR UNE PLATINE TRANSPARENTE

Publication
EP 4045899 A4 20231129 (EN)

Application
EP 20891873 A 20201125

Priority
• US 201962940871 P 20191126
• US 2020062249 W 20201125

Abstract (en)
[origin: US2021156807A1] Systems and methods here may be used for a setup of fluorescence image capturing of a gemstone, such as a diamond placed on a flat stage. Some examples utilize a setup that both sends light and captures the image from the table side of the gemstone by passing ultraviolet (UV) light between 10 nm and 400 nm to the gemstone and capturing the excited fluorescence image for analysis through a dichroic beam splitter. In some examples, the cutoff is 300 nm. The dichroic beam splitter arrangement allows for the camera to focus on the same interface of the stage and gemstone over and over for ease of use and without moving, changing, or adjusting the equipment for different samples.

IPC 8 full level
G01N 21/87 (2006.01); **G01N 21/00** (2006.01); **G01N 21/25** (2006.01); **G01N 21/64** (2006.01); **G01N 21/88** (2006.01)

CPC (source: EP IL US)
G01N 21/6456 (2013.01 - EP IL US); **G01N 21/6489** (2013.01 - EP); **G01N 21/87** (2013.01 - EP IL US); **G01N 2201/1296** (2013.01 - EP)

Citation (search report)
• [Y] US 6014208 A 20000111 - WELBOURN CHRISTOPHER MARK [GB], et al
• [Y] WO 2019185993 A1 20191003 - ENGEMMA OY [FI]
• [A] US 5883389 A 19990316 - SPEAR PAUL MARTYN [GB], et al
• [A] US 9958398 B2 20180501 - DAVIES NICHOLAS MATTHEW [GB], et al
• [A] EP 3505916 A1 20190703 - PUBLIC JOINT STOCK COMPANY ALROSA [RU], et al
• [A] CN 109444143 A 20190308 - XIANGYANG AIMOSI INTELLIGENT DETECTION EQUIPMENT CO LTD
• See also references of WO 2021108567A1

Cited by
US12025563B2

Designated contracting state (EPC)
AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

DOCDB simple family (publication)
US 11346788 B2 20220531; **US 2021156807 A1 20210527**; CN 115038958 A 20220909; EP 4045899 A1 20220824;
EP 4045899 A4 20231129; IL 293269 A 20220701; JP 2023502527 A 20230124; JP 7530426 B2 20240807; TW 202134632 A 20210916;
TW 202323797 A 20230616; TW 1794686 B 20230301; US 11674905 B2 20230613; US 12025563 B2 20240702; US 2022252520 A1 20220811;
US 2023266253 A1 20230824; WO 2021108567 A1 20210603; WO 2021108567 A8 20220630

DOCDB simple family (application)
US 202017105065 A 20201125; CN 202080081904 A 20201125; EP 20891873 A 20201125; IL 29326922 A 20220523;
JP 2022530213 A 20201125; TW 109141451 A 20201125; TW 112103394 A 20201125; US 2020062249 W 20201125;
US 202217731752 A 20220428; US 202318141322 A 20230428